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## IN MEMORIAM-NEIL BARTLETT (1932-2008)

Alan Cowley<sup>a</sup>

<sup>a</sup> Department of Chemistry, University of Texas, Austin, Texas, USA

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## IN MEMORIAM-NEIL BARTLETT (1932–2008)

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### ALAN COWLEY

Department of Chemistry, University of Texas, Austin,  
Texas, USA

Neil Bartlett passed away on August 5th, 2008, at the age of 75. Without doubt, Bartlett was one of the world's truly outstanding chemists and his name will forever be associated with his pioneering synthesis of the first noble gas compound. Prior to Bartlett's epochal discovery, the possible existence of noble gas compounds had been discussed in the literature. Linus Pauling, for example, predicted the existence of  $\text{KrF}_6$  and  $\text{XeF}_6$ . However, attempts to produce such compounds in the laboratory were singularly unsuccessful and, as reflected in the textbooks of that era, the chemical community settled for the more or less universal view that the noble gases were inherently unreactive. This picture changed dramatically in 1962, starting with Bartlett and Lohmann's isolation of the remarkable dioxygenyl cation salt,  $[\text{O}_2]^+ [\text{PtF}_6]^-$ . With a brilliant piece of chemical insight, Bartlett reasoned that if  $\text{PtF}_6$  is capable of oxidizing the dioxygen molecule, it should likewise be capable of removing an electron from a xenon atom since the first ionization potentials of  $\text{O}_2$  and  $\text{Xe}$  are very similar. Following up with the pivotal experiment, Bartlett discovered that  $\text{Xe}$  and  $\text{PtF}_6$  do indeed react to form xenon hexafluoroplatinate. The outcome of this monumental experiment changed the way the world thought about the noble gases and opened the door to the synthesis of a plethora of noble gas compounds. As well as enhancing our understanding of the oxidation states of the elements and their reactions, the advent of noble chemistry continues to affect

Address correspondence to Alan Cowley, Department of Chemistry and Biochemistry, The University of Texas at Austin, 1 University Station A5300, Austin, TX 78712-0165, USA. E-mail: [cowley@mail.utexas.edu](mailto:cowley@mail.utexas.edu)

our daily lives in terms of the production of fluorinated pharmaceuticals and the use of excimer lasers in eye surgery.

Bartlett performed his now-famous experiment at the University of British Columbia, and the American Chemical Society and the Canadian Society of Chemistry designated his work on noble gases an International Historic Landmark at this university on May 23, 2006.

In addition to his service on the faculty of the University of British Columbia, Bartlett held subsequent faculty positions at Princeton University and the University of California, Berkeley. Bartlett was the recipient of a large number of accolades, which include 25 major national and international awards, nine honorary doctorates from prestigious universities around the world, and membership in a host of academies and societies.

From the scientific standpoint, Bartlett was wonderful to interact with because of his keen chemical insight and his ability to arrive at intriguing suggestions very rapidly. On the personal level, Bartlett was a loyal friend who always exhibited a pleasant, modest demeanor. In every way he epitomized the epithet, "a scholar and a gentleman."